

## REMARKS

Reconsideration and allowance in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 1-9 remain pending in the present application.

*I. Claim 1-9 Patentably Distinguish over U.S. Patent No. 3,903,869*

Claims 1-9 stand rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 3,903,869 to Banclari ("the '869 patent"). Applicant respectfully traverses this rejection for the reasons presented below.

Independent claim 7 recites a medical treatment of upper airway disorders that includes distending the frontal portion of a patient's neck in a manner effective for alleviating obstruction of the patient's airway. Independent claim 4 recites that the upper airway disorder is sleep apnea syndrome, and that the distending force is applied to the frontal portions of a patient's neck in a manner effective to alleviate obstruction of the patient's airway in sleep. Independent claim 1 further recites that the distending force is a pressure less than ambient pressure, often referred to as a "negative pressure."

The Examiner cites the '869 patent for the proposition that column 3, lines 45-60, and column 4, lines 25-39, teaches applying to the frontal portions of a patient's neck a pressure less than ambient pressure. Applicant respectfully disagrees.

First, the '869 patent does not teach or suggest distending the frontal portion of the patient's neck. The '869 patent teaches a device for applying a vacuum to the thorax and upper abdomen of this patient via a negative pressure chamber 11 disposed around these portions of the patient. The upper end of the negative pressure chamber is sealed around the patient's neck by means of a closure material 19. This material surrounds the patient's neck. There is no teaching or suggestion that the negative pressure chamber be disposed at the neck. By providing the closure material around the patient's neck just above the shoulders, as shown in the figures of the '869 patent, the device taught by this patent effectively prevents the negative pressure within the negative pressure chamber from reaching the patient's neck. Thus, the device taught by the

'869 patent is not capable of providing a distending force on the frontal portion of the patient's neck.

Second, the '869 patent does not teach that the negative pressure applied within the negative pressure chamber 11 is provided to distend the frontal portion of the neck so as to alleviate obstruction of the patient's airway. On the contrary, a proper reading of column 4 of the '869 patent suggests that the device taught by the '869 patent alleviates an apnea in the patient by arousing the patient, not by removing the obstruction. For example, column 4, lines state,

“[usually] all that that is required to get an infant out of an apnic spell is to physically jolt the infant or to alter the pressure or pattern of air supply to the an infant for breathing. In accordance with the embodiment of the invention, the magnitude of negative air pressure within the negative pressure chamber is automatically altered in order to prevent such apnic spells.”

Applicant submits that this passage in the '869 patent teaches *arousing* the patient by altering the negative pressure he or she experiences. It does not suggest that a distending force is applied to the patient's neck to open the airway.

For the reasons presented above, applicant respectfully submits that independent claims 1, 4, and 7 are not anticipated or rendered obvious by the cited references. In addition, claims 2, 3, 5, 6, 8, and 9 are also not anticipated or rendered obvious due to their dependency from independent claims 1, 4, or 7. Accordingly, applicant respectfully request that the above rejection of claims 1-9 be withdrawn.

*I. Claim 4 and 6-9 Patentably Distinguish over U.S. Patent No. 4,700,697*

Claims 4 and 7 stand rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 4,700,697 to Mundell et al. (“the '697 patent”). In addition, claims 4, 6, 8, and 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over the '697 patent in view of the '869 patent. Applicant respectfully traverses these rejections for the reasons presented below.

The '697 patent pertains to a neck brace that maintains the patient's neck in a dorsally flexed position during sleep. The '697 patent posits that maintaining the head/neck in this relationship with respect to the rest of the body treats apneic SIDS. Applicant submits that these teachings in the '697 patent does not correspond to the claimed invention.

The claims of the present application recite distending the frontal portion of a patient's neck in a manner effective for alleviating obstruction. The Examiner appears to interpret the teaching in the '697 patent of maintaining the head in the dorsally flexed position as corresponding to the claim language reciting "distending the frontal portion of a patient's neck". Applicant submits that this interpretation is inconsistent with the plain meaning of the this phrase and is inconsistent with the teaching in the present application.

The present invention contemplates "distending the frontal portion of a patient's neck" by applying a pulling force on the neck tissue. In one embodiment, for example that recited in claim 1, this pulling force is created by a negative pressure on the neck tissue. This pulling force urges the neck tissue outward, i.e., generally away from the spine, to open the airway. One skilled in the art would understand that the device taught by the '697 patent, while tilting the head back, does not apply such a distending (pulling) force on the neck tissue. Instead of pulling the neck tissue outward, the device taught by the '697 patent prevents lengthwise movement of the neck tissue. While this lengthwise tensioning of the neck tissue taught by the '697 patent may mitigate against apneas, it does not correspond to the claimed invention, which recites "distending" the frontal portion of a patient's neck.

Furthermore, the cited references do not teach or suggest modifying the '697 patent to provide the "distending force" as recited in the independent claims. For example, the '869 patent does not teach or suggest providing the claimed distending force for the reasons discussed above with respect to the rejection of claims 1-9.

For the reasons presented above, applicant respectfully submits that independent claims 4 and 7 are not anticipated or rendered obvious by the cited references. In addition, claims 4, 6, 8, and 9 are also not rendered obvious due to their dependency from independent claims 4 and 7. Accordingly, applicant respectfully request that the above rejection of claim 4, 6, 7, 8, and 9 be withdrawn.

SANDERS -- Appln. No.: 09/473,196

All objections and rejections have been addressed. It is respectfully submitted that the present application is in condition for allowance and a Notice to the effect is earnestly solicited.

Respectfully submitted,

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